CENTER FOR ADVANCED AVIATION SYSTEM DEVELOPMENT (CAASD)

Operational Evolution Plan (OEP) Modeled System Performance Update

28 April 2006

William Baden, Michael Callaham, Nazanin Eshragh, Glenn Foster, Jerome Freedman, David Hechtman, Jacqueline Kee, David Millner, Lorrie Smith, George Solomos

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Current System Performance

Note: All acronyms are defined in the Glossary at the end of this document.

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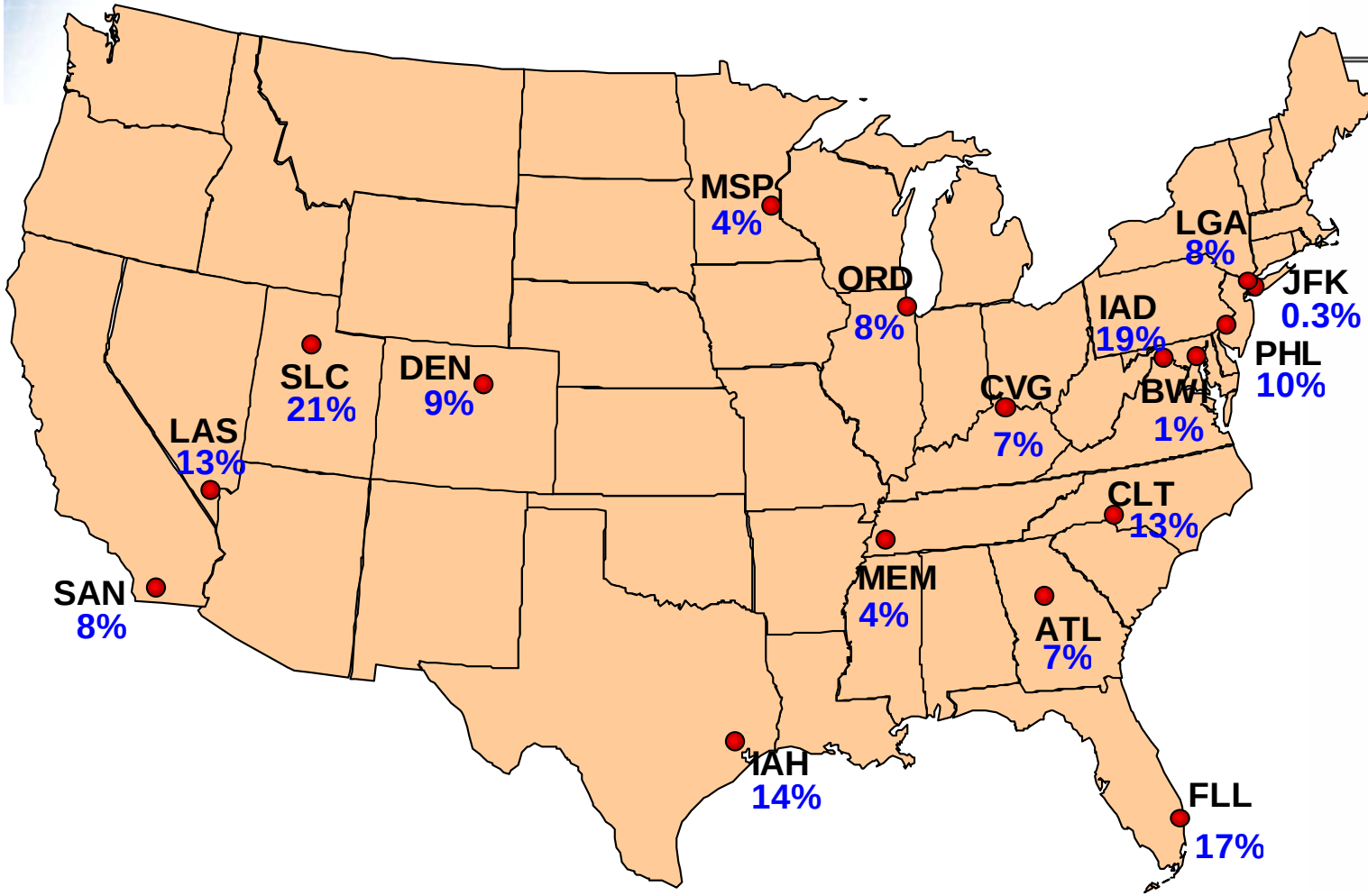
Traffic is On the Rise

17 of 35 OEP Airports have More Traffic (FY2005 Versus FY2000)



Change in Operations 2005 vs. 2000	
SLC	21%
IAD	19%
FLL	17%
IAH	14%
CLT	13%
LAS	13%
PHL	10%
DEN	9%
LGA	8%
ORD	8%
SAN	8%
CVG	7%
ATL	7%
MSP	4%
MEM	4%
BWI	1%
JFK	0.3%

Source: OPSNET

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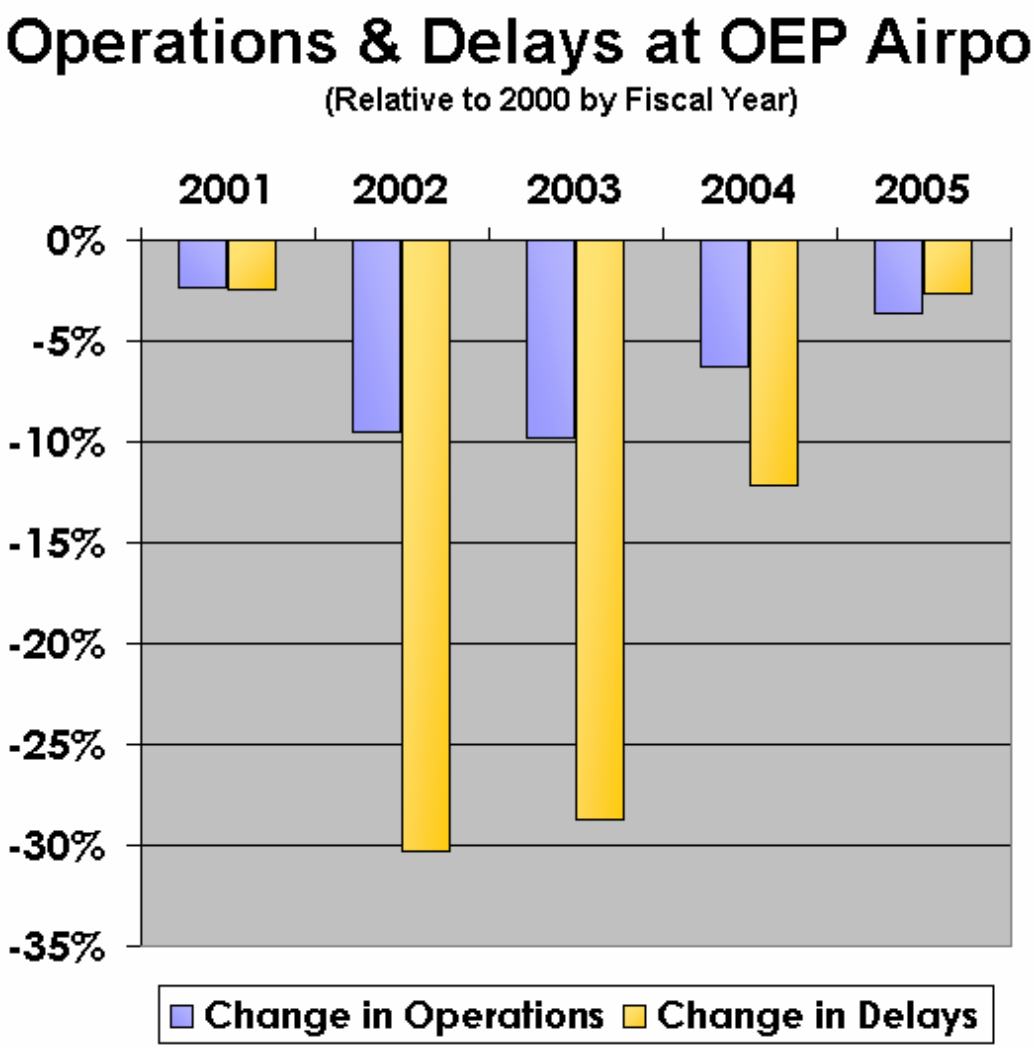
Delays are Down from FY2000 Highs

NAS-wide Delays are Still Below 2000 Levels



- **Operations were 3.6% lower in FY2005 than in FY2000**
- **Delays were 2.6% lower in FY2005 than in FY2000**
- **Delays have increased from their FY2002 low**

Source: OPSNET (Operations); ASPM (Delay)

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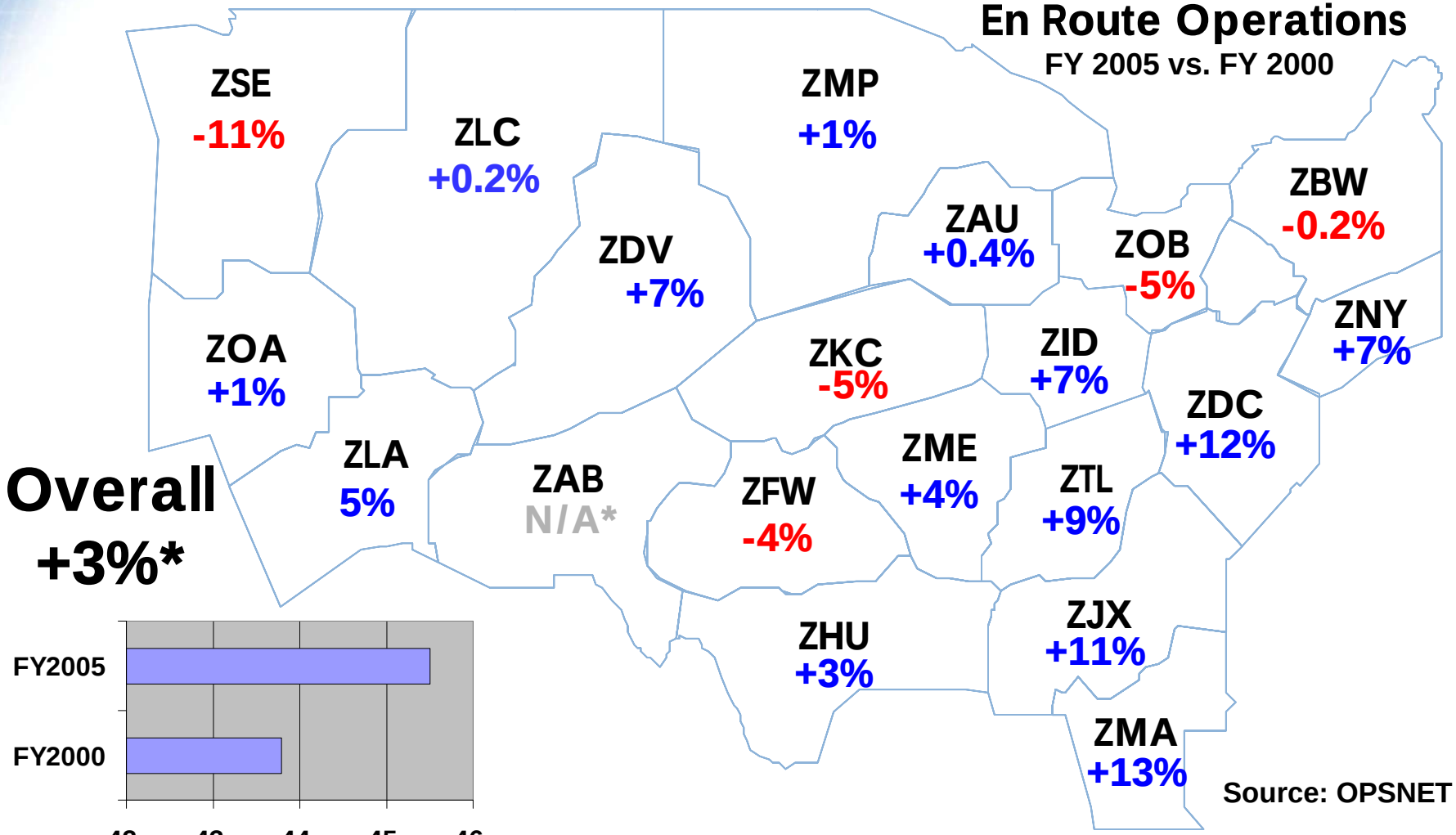
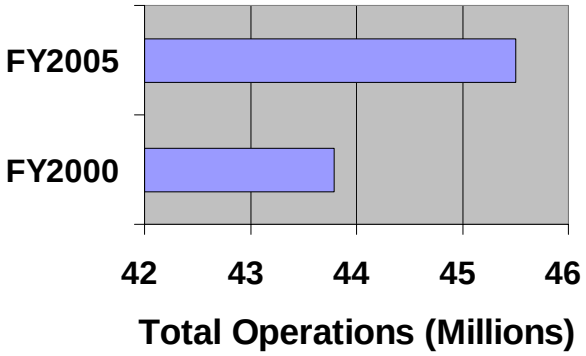
En Route Traffic Continues to Grow

En Route Traffic is Above 2000 Levels



Overall +3%*



*Does not include ZAB (inconsistent data)

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Updated Outlook for Future System Performance

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System Performance Modeling Update

Results Reflecting Updated Information

- **Modeled capacity reflects OEP v8.0**
- **Modeled base demand reflects March 2006 schedule**
- **Modeled future demand reflects 2005 Terminal Area Forecast (TAF) (released February 2006)**
- **Future results include ranges of expected 2015 performance (for National Airspace System (NAS) and individual airports)**

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Forecast Changes

Difference Between 2004 and 2005 TAF in 2015

Airport	TAF 2004	TAF 2005	% Change
ATL	1,279,975	1,140,615	-11%
BWI	448,306	401,127	-11%
CVG	699,692	509,511	-27%
DTW	754,909	671,847	-11%
IAD	923,001	647,107	-30%
LAS	717,257	861,482	20%
PIT	319,956	284,571	-11%
SLC	600,703	513,754	-14%

Note: 2005 TAF as of March 20, 2006
2004 TAF as of March 10, 2005

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NAS-wide Performance

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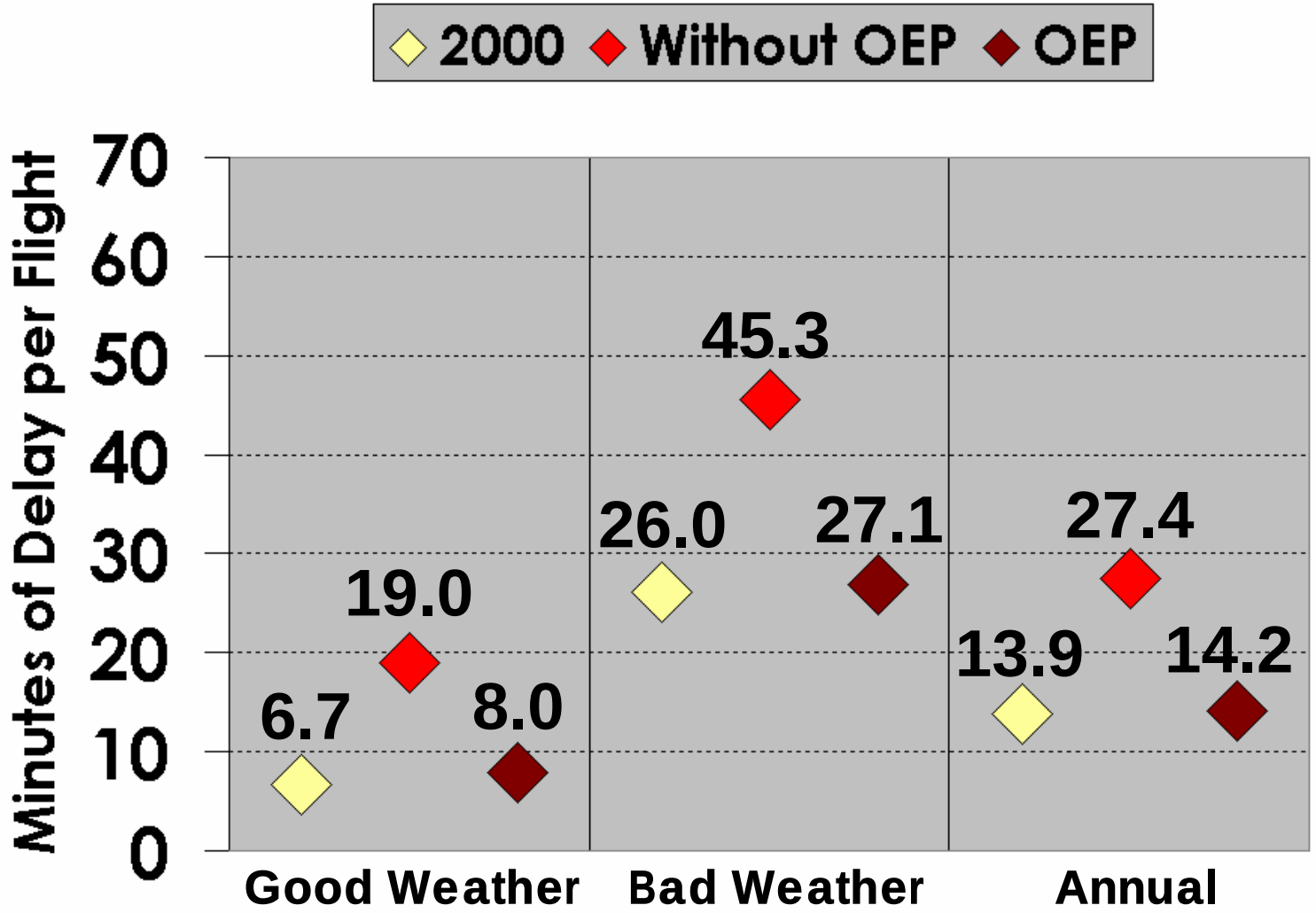
NAS Performance

2015 Delays at OEP Airports



Results reflect OEP version 8.0

Delays are traffic-weighted across the OEP 35 airports

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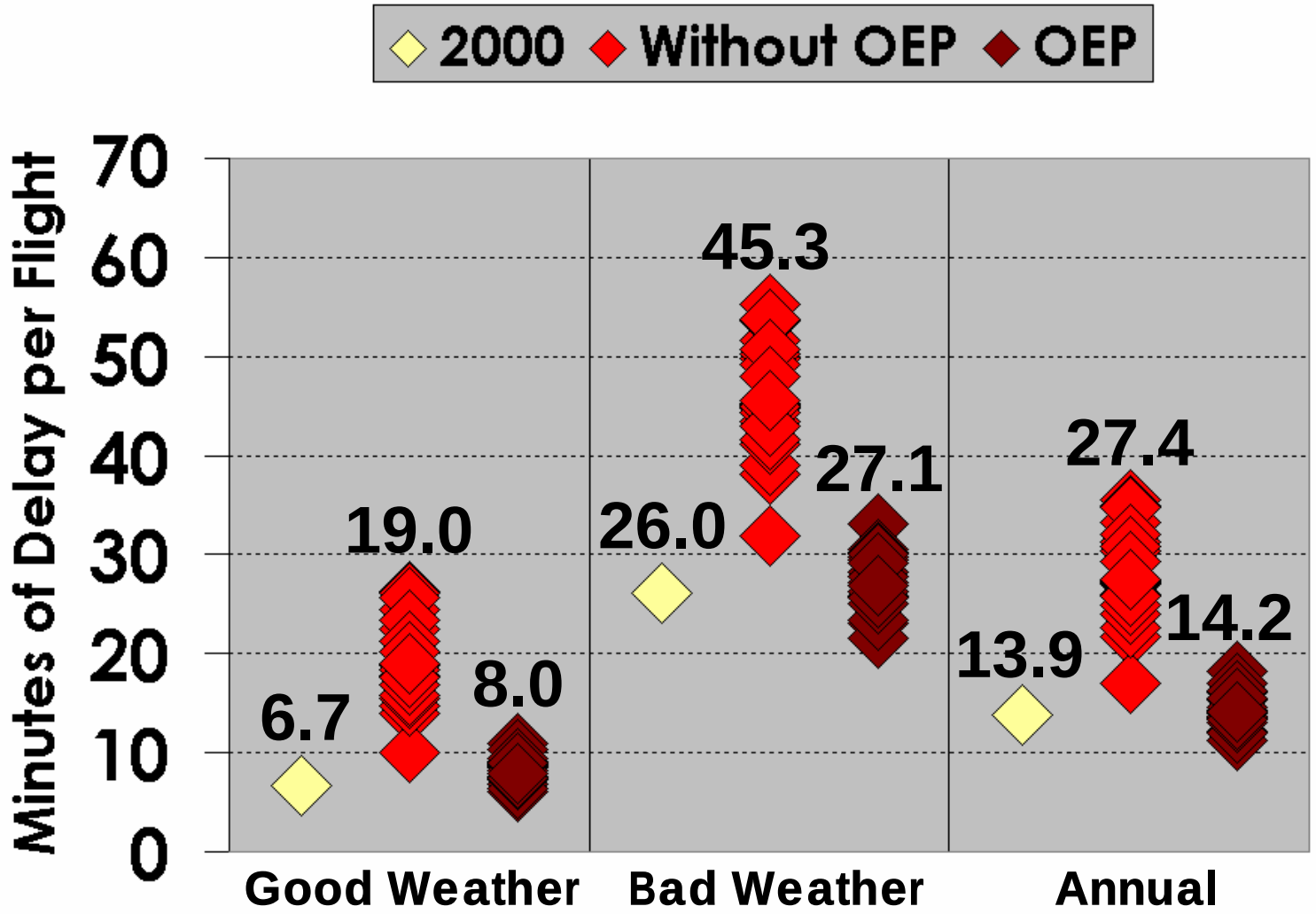
NAS Performance

2015 Delays at OEP Airports



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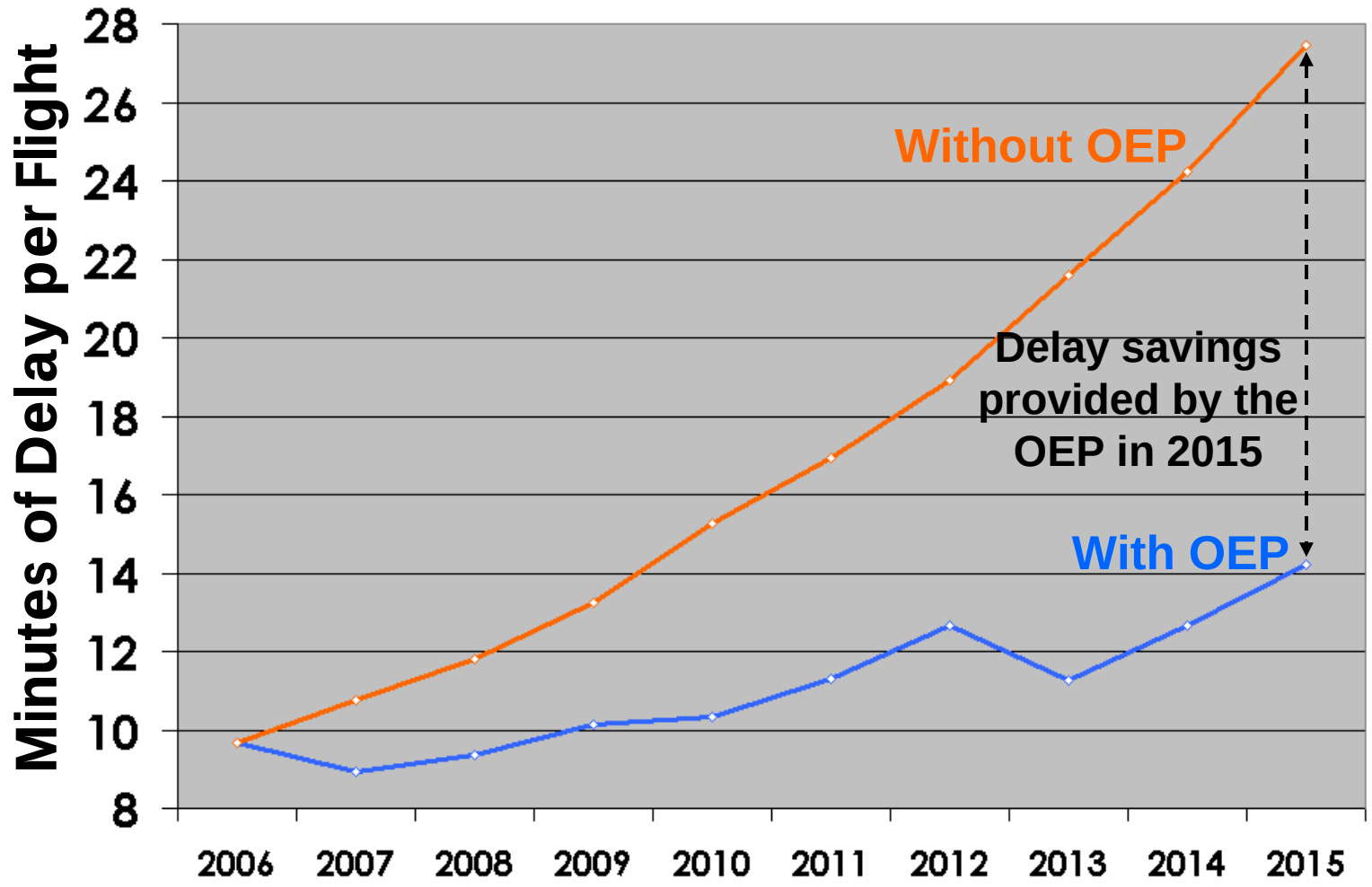
NAS Performance

Delay Savings Provided by OEP v8.0



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Airport Performance

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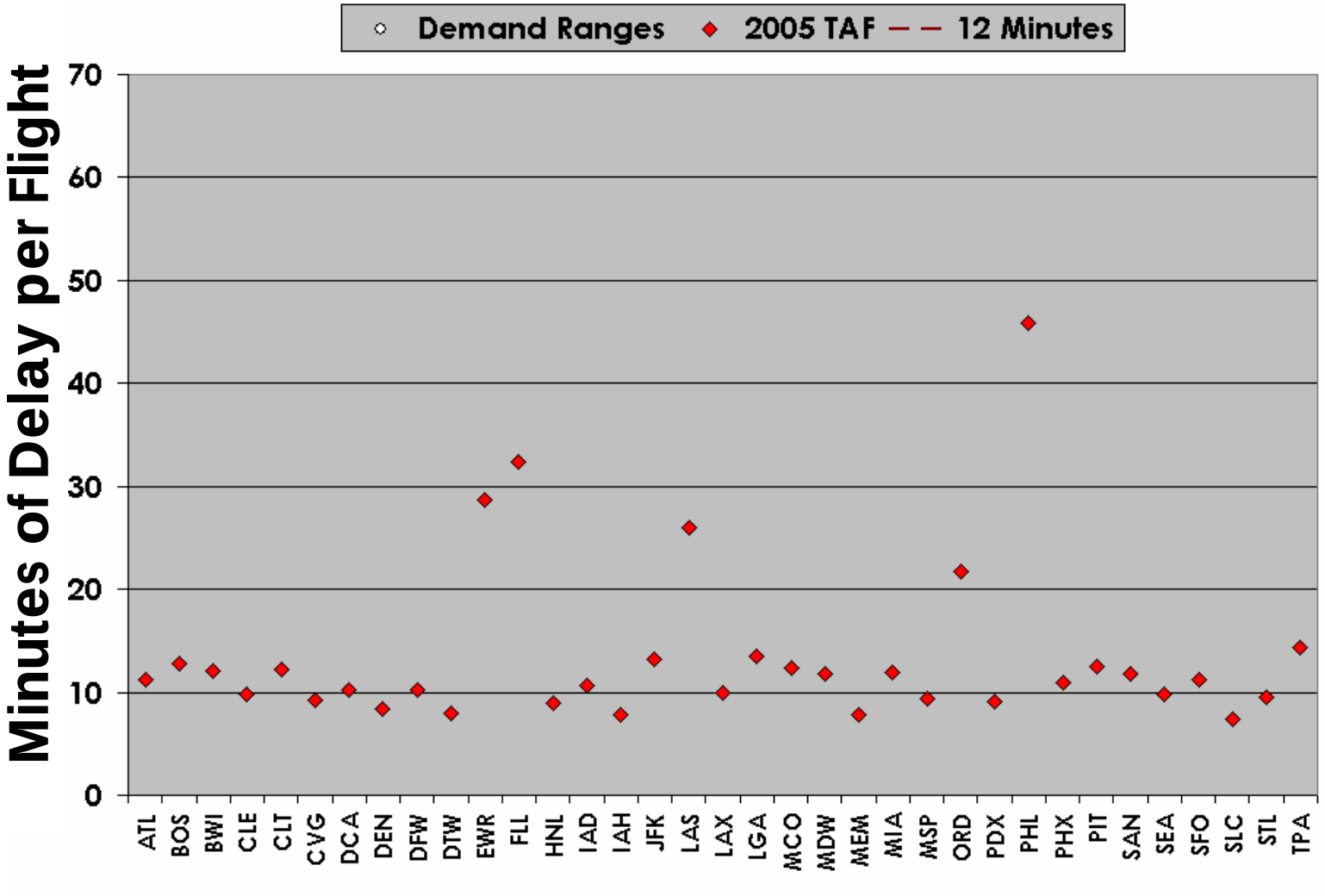
Airport Performance

Modeled Airport Delays in 2015



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Airport Performance

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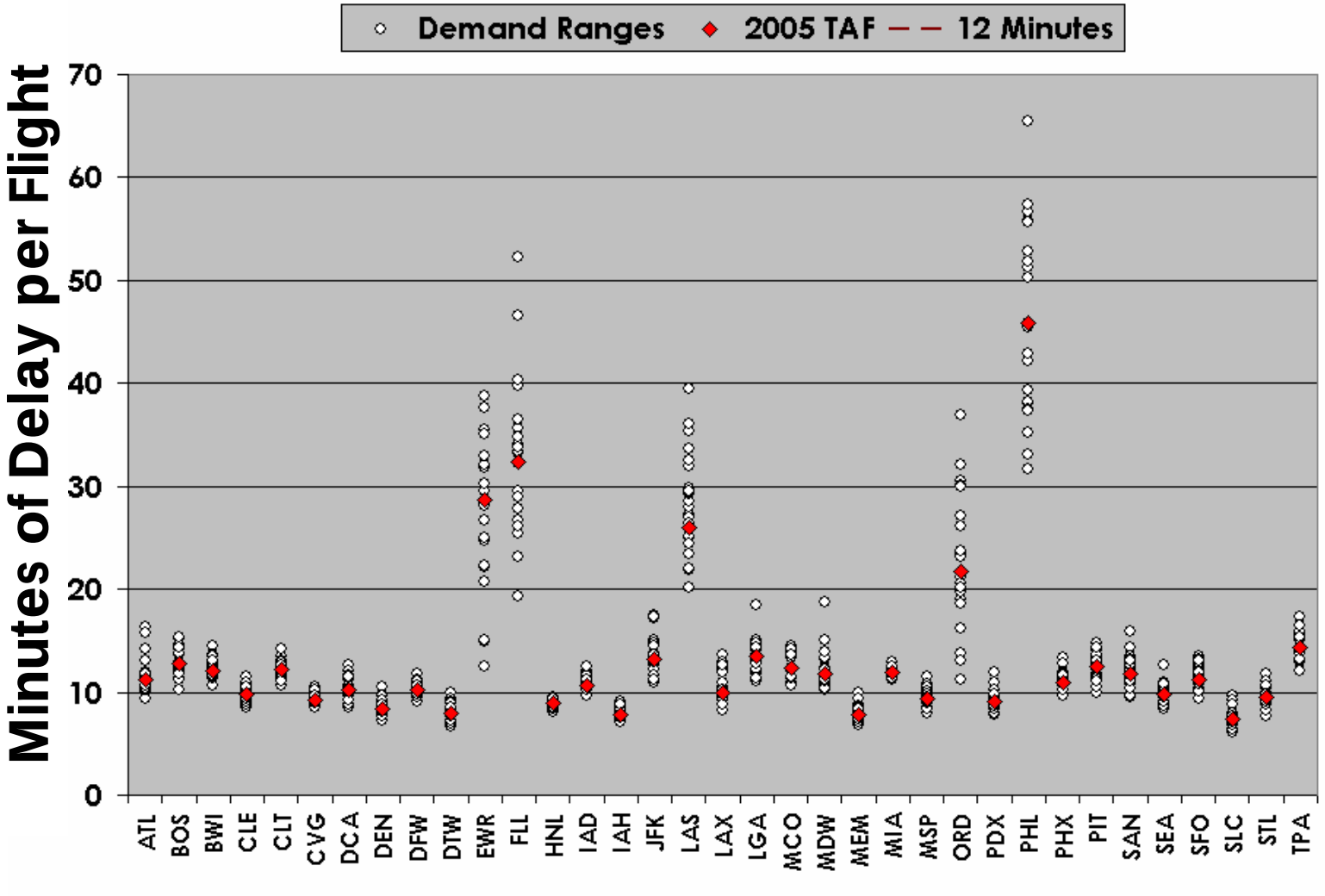

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Demand ranges are based upon 2005 TAF

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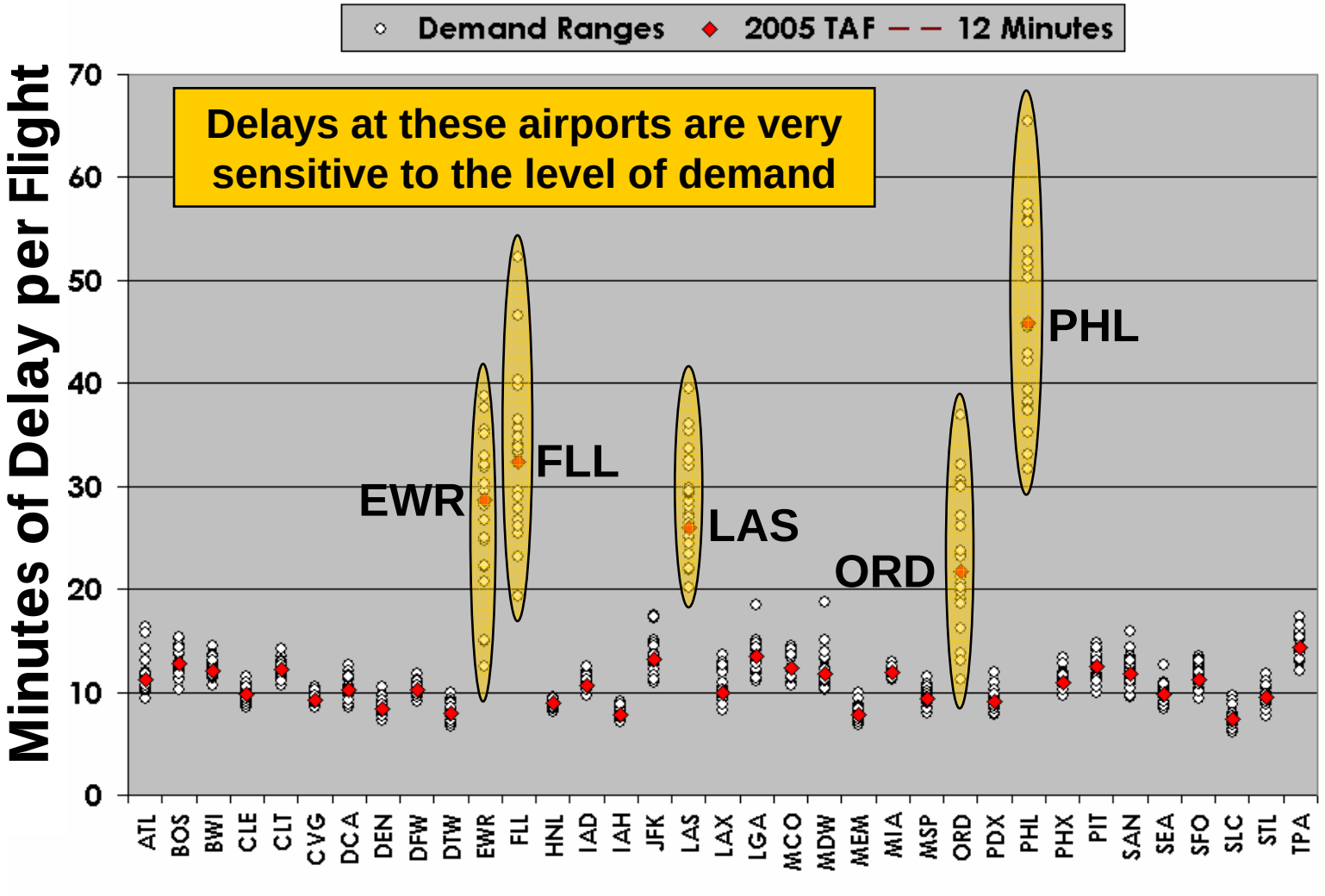

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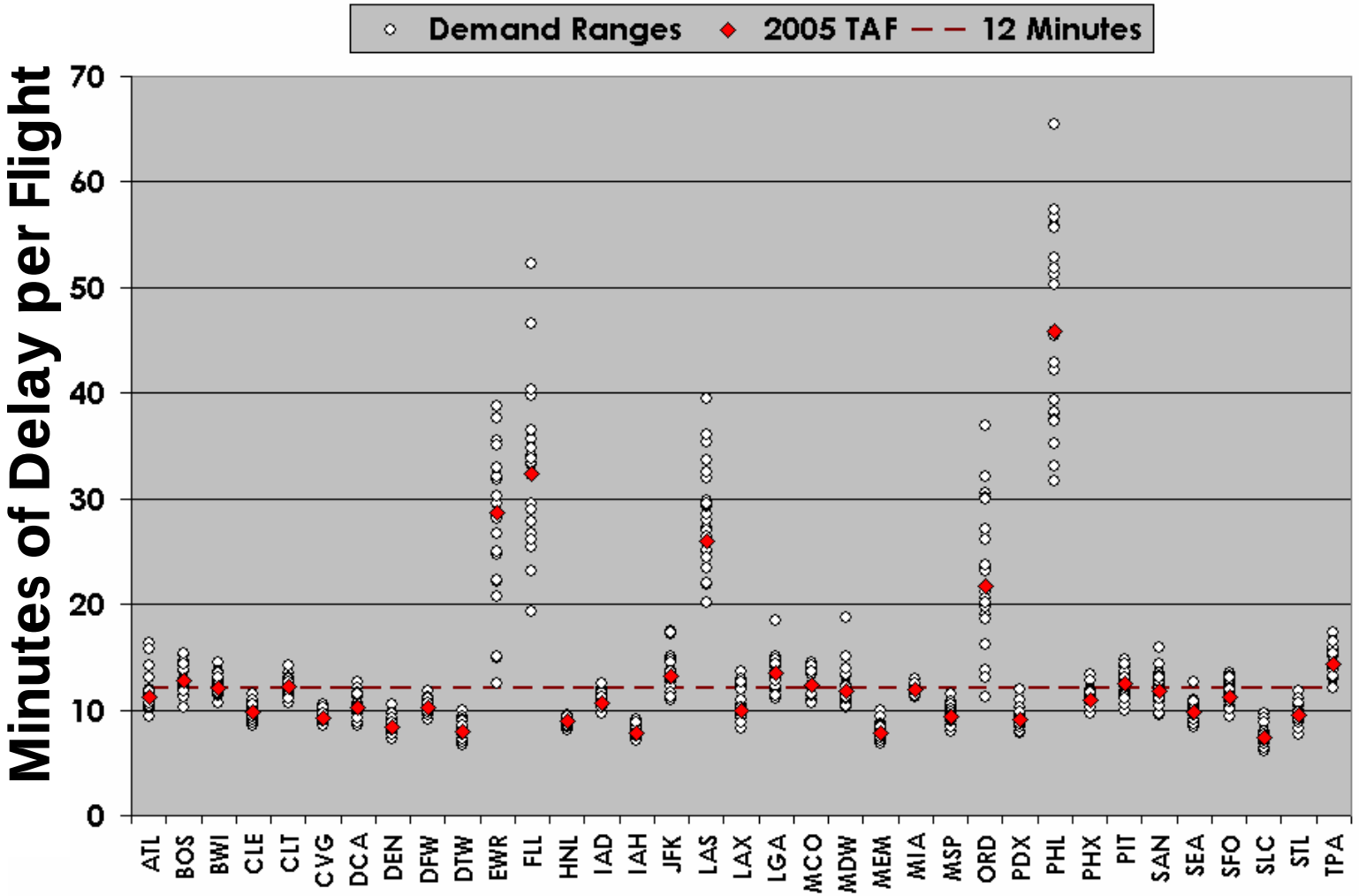

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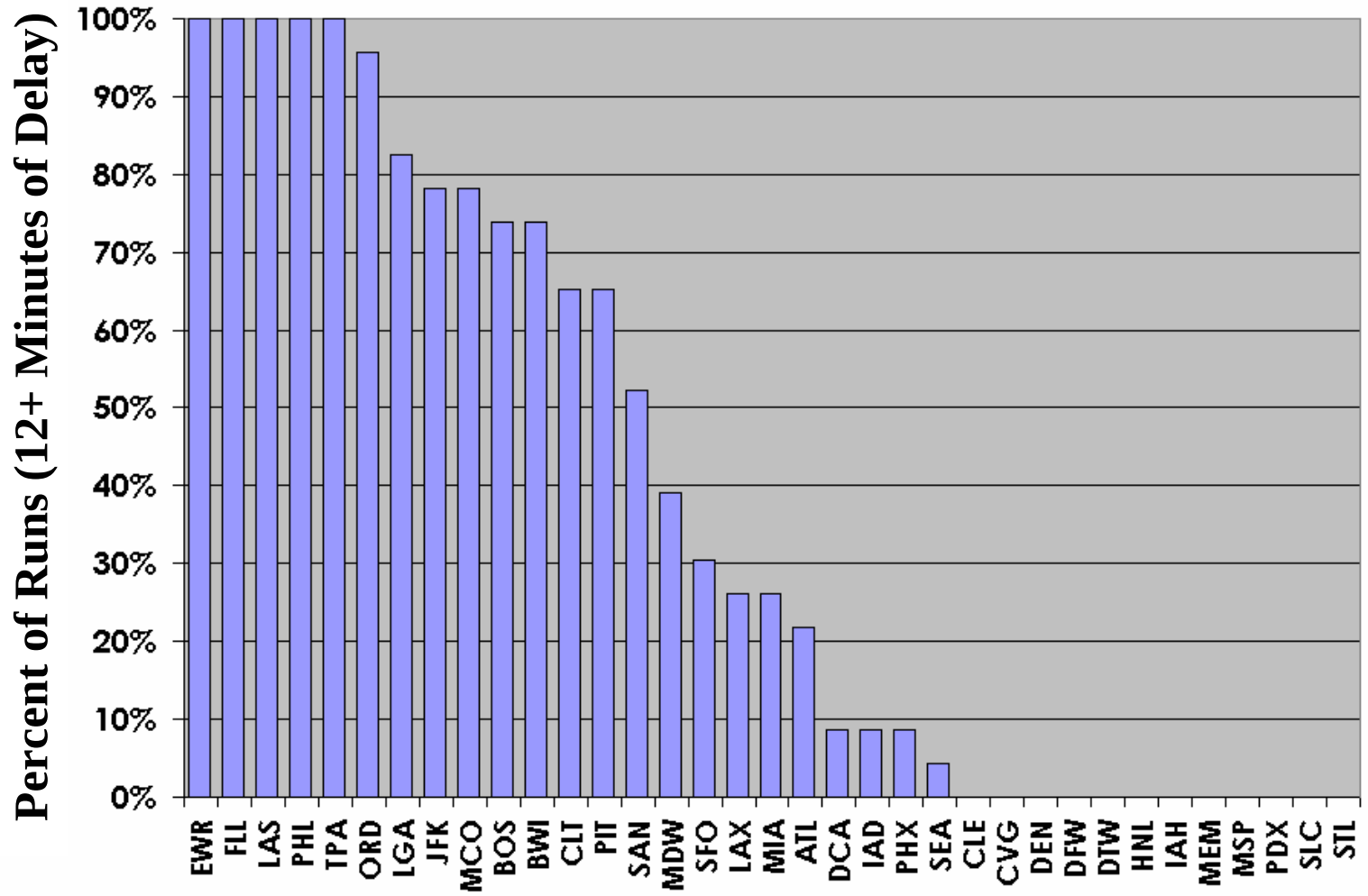
2015 Performance

Modeled Annual Delays Exceeding 12 Minutes



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2015 Performance

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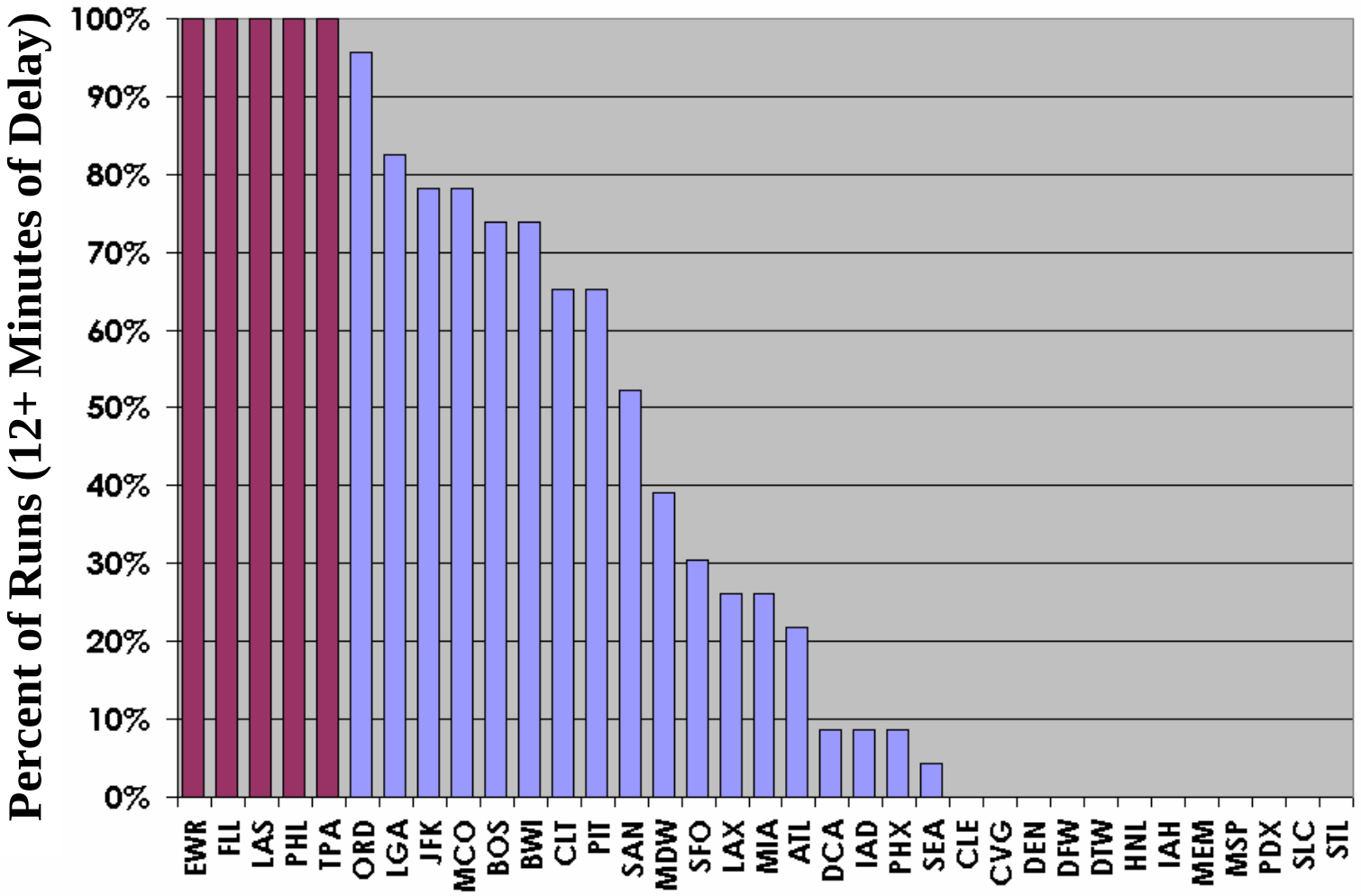

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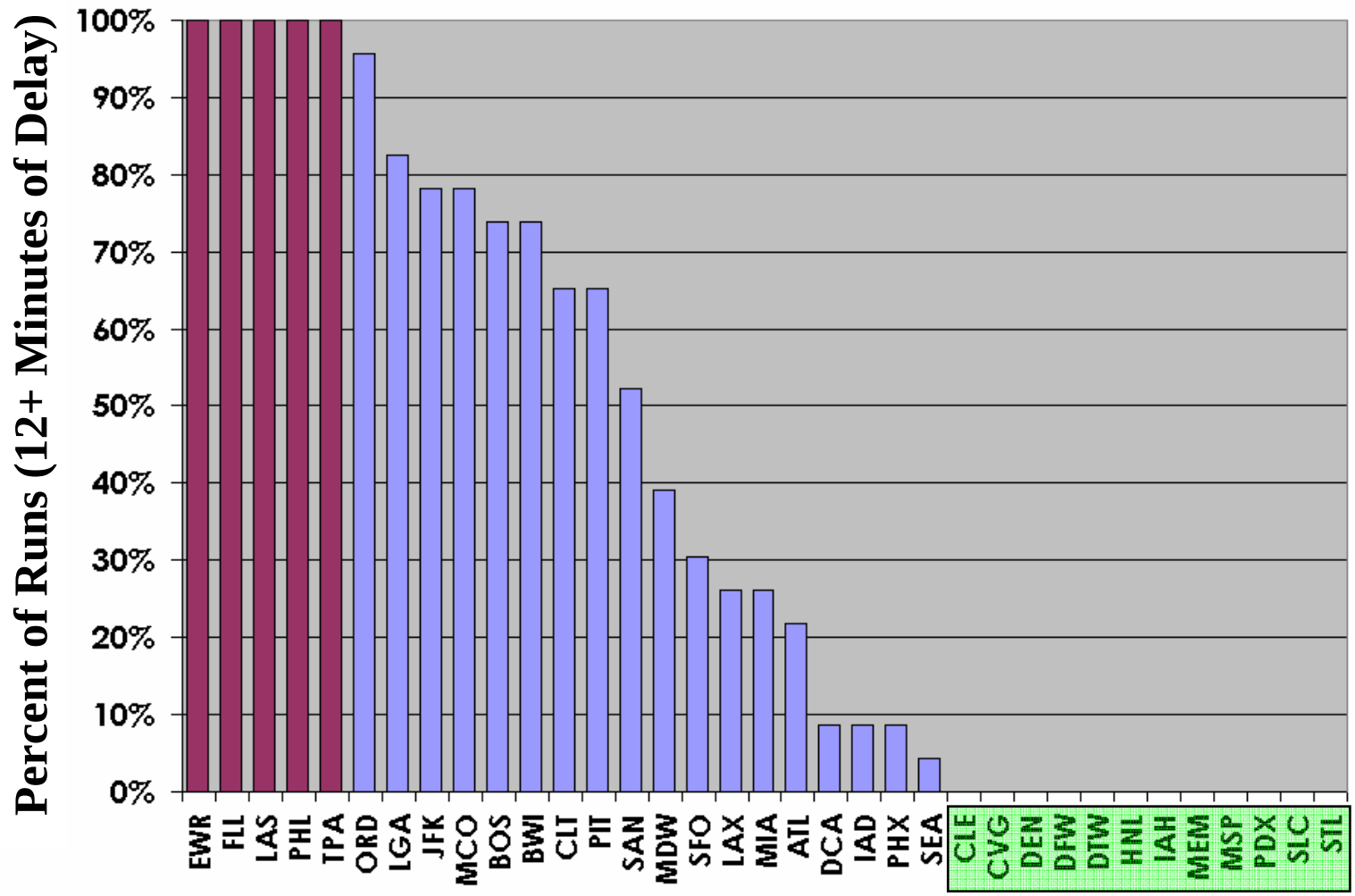

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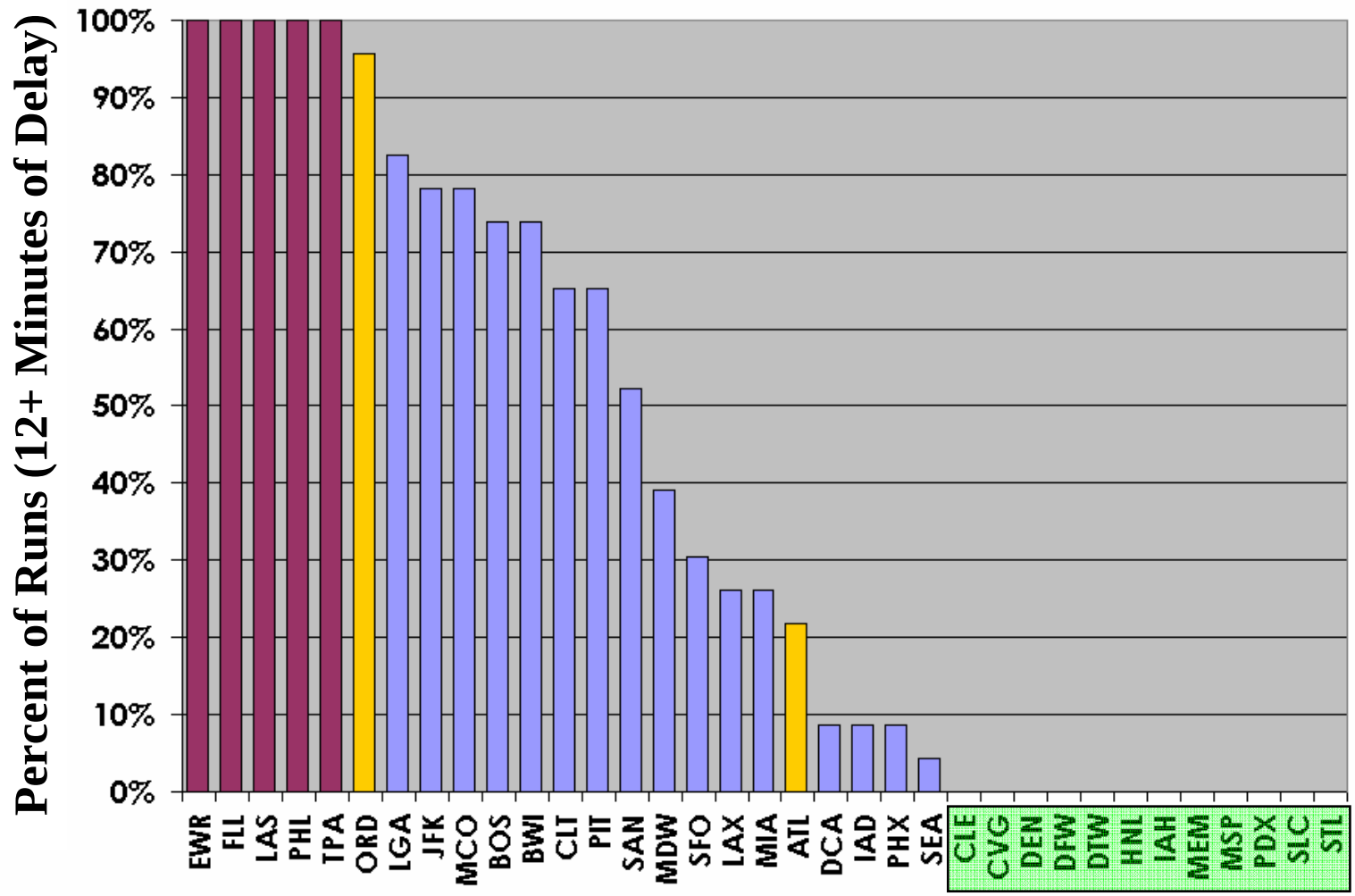

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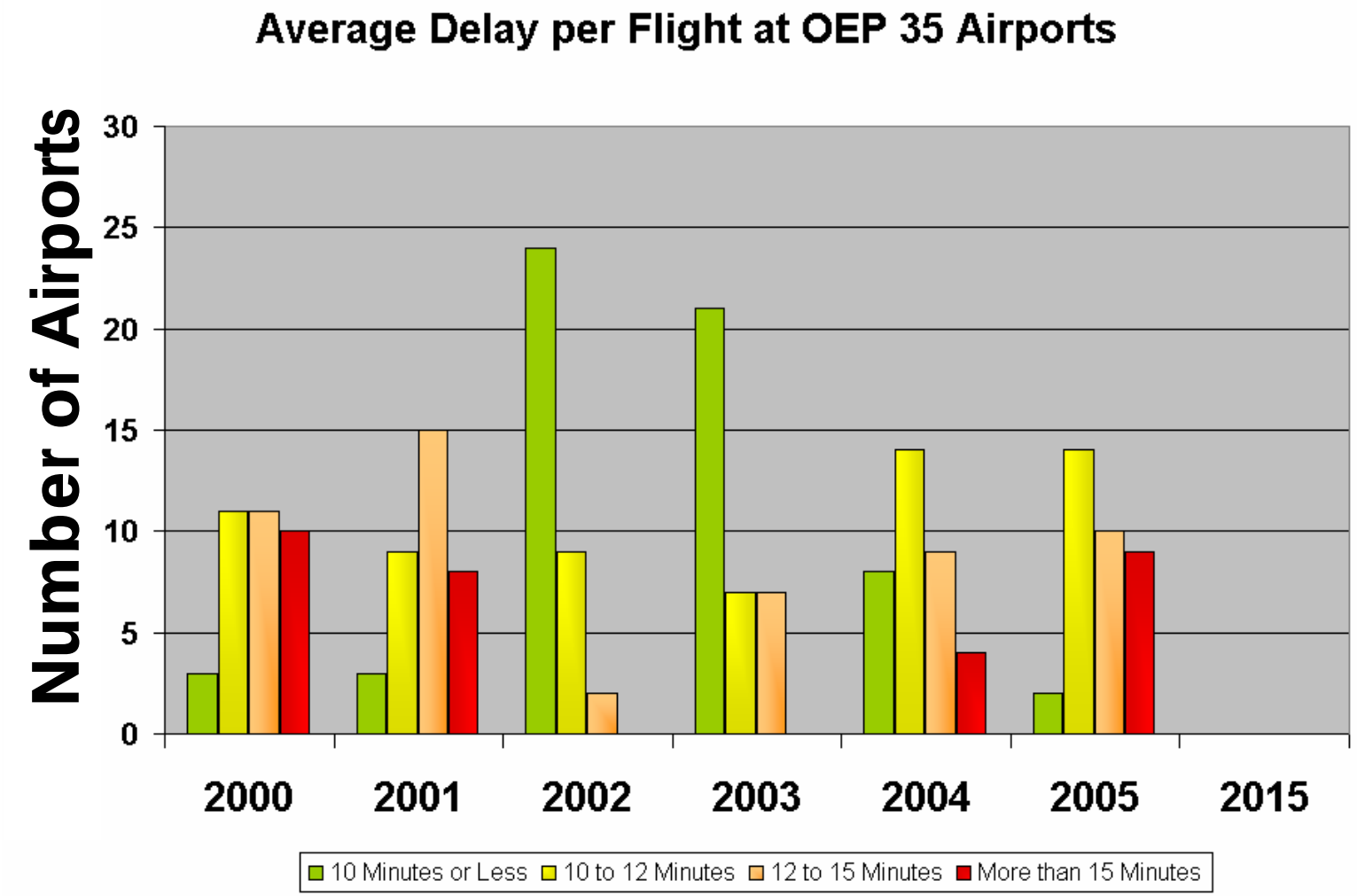
Airport Arrival Delays

Distribution of Arrival Delays of OEP Airports



FY 2000 through 2005 delays taken from ASPM
FY 2015 delays reflect OEP v 8.0 analysis performed using 2005 TAF

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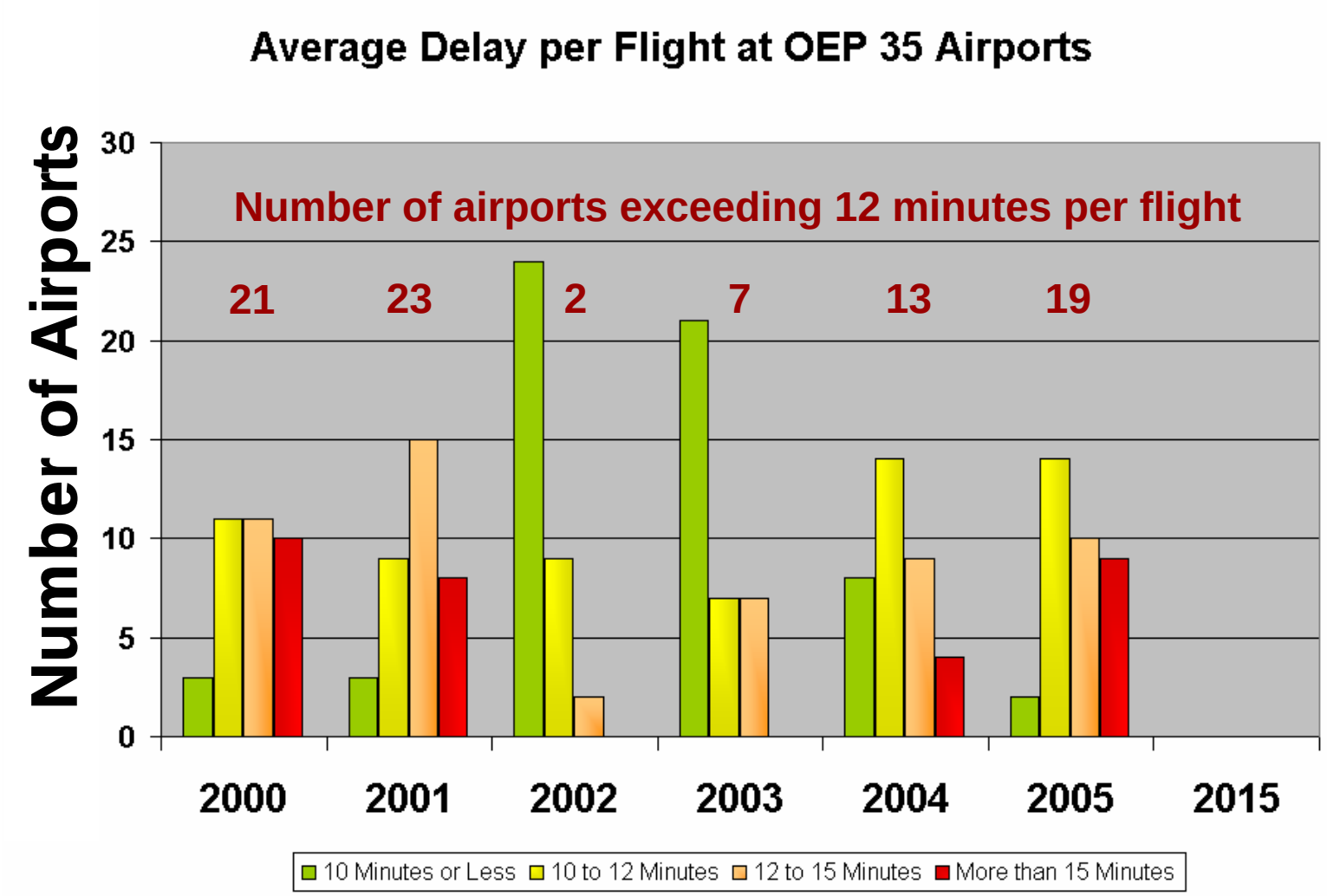

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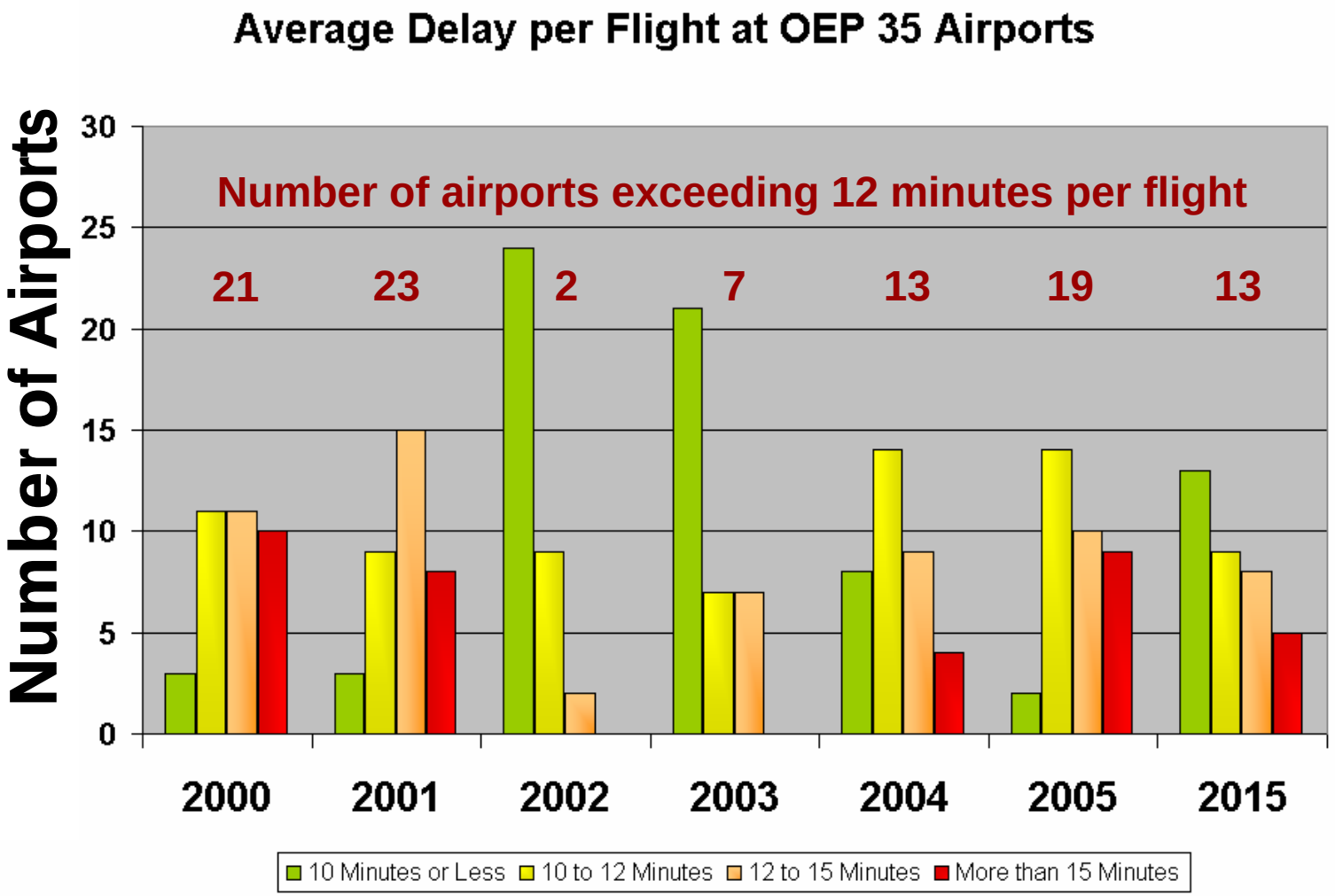

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The Mountain Chart

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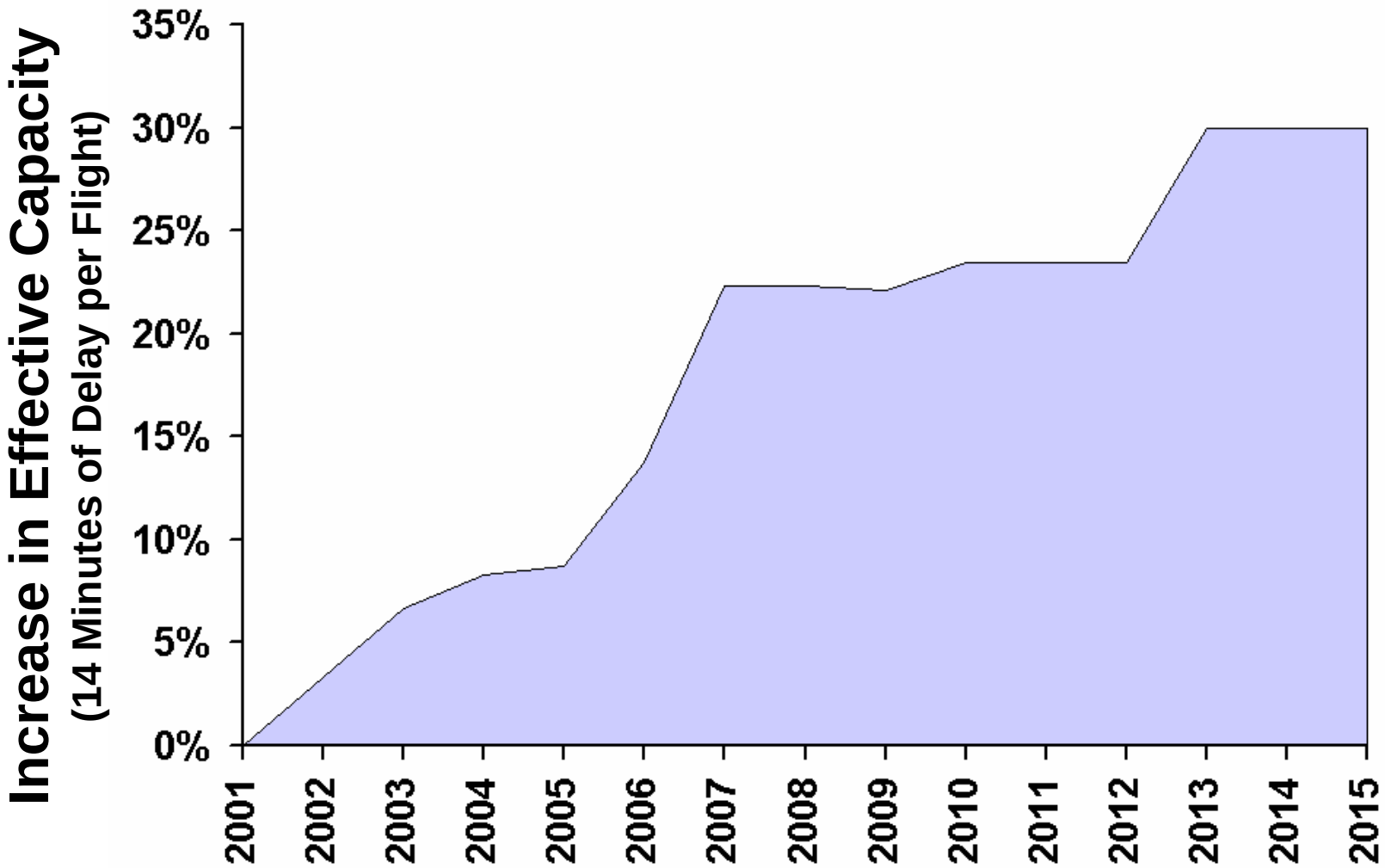
The Mountain Chart

30% Increase in Effective Capacity by 2013



Mountain Chart reflects OEP v8.0 capacity, TAF 2005 demand growth, and March 2006 schedules

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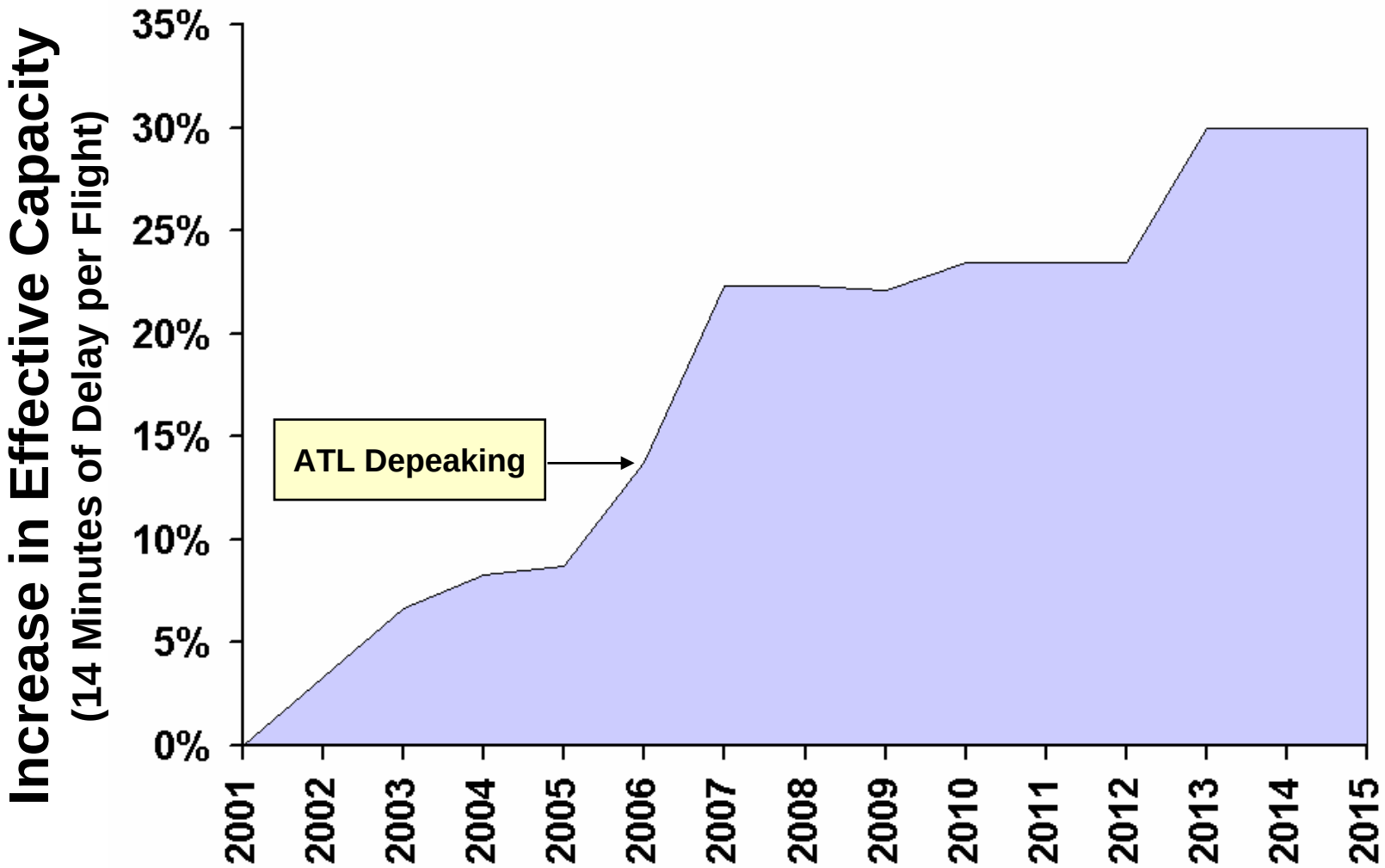

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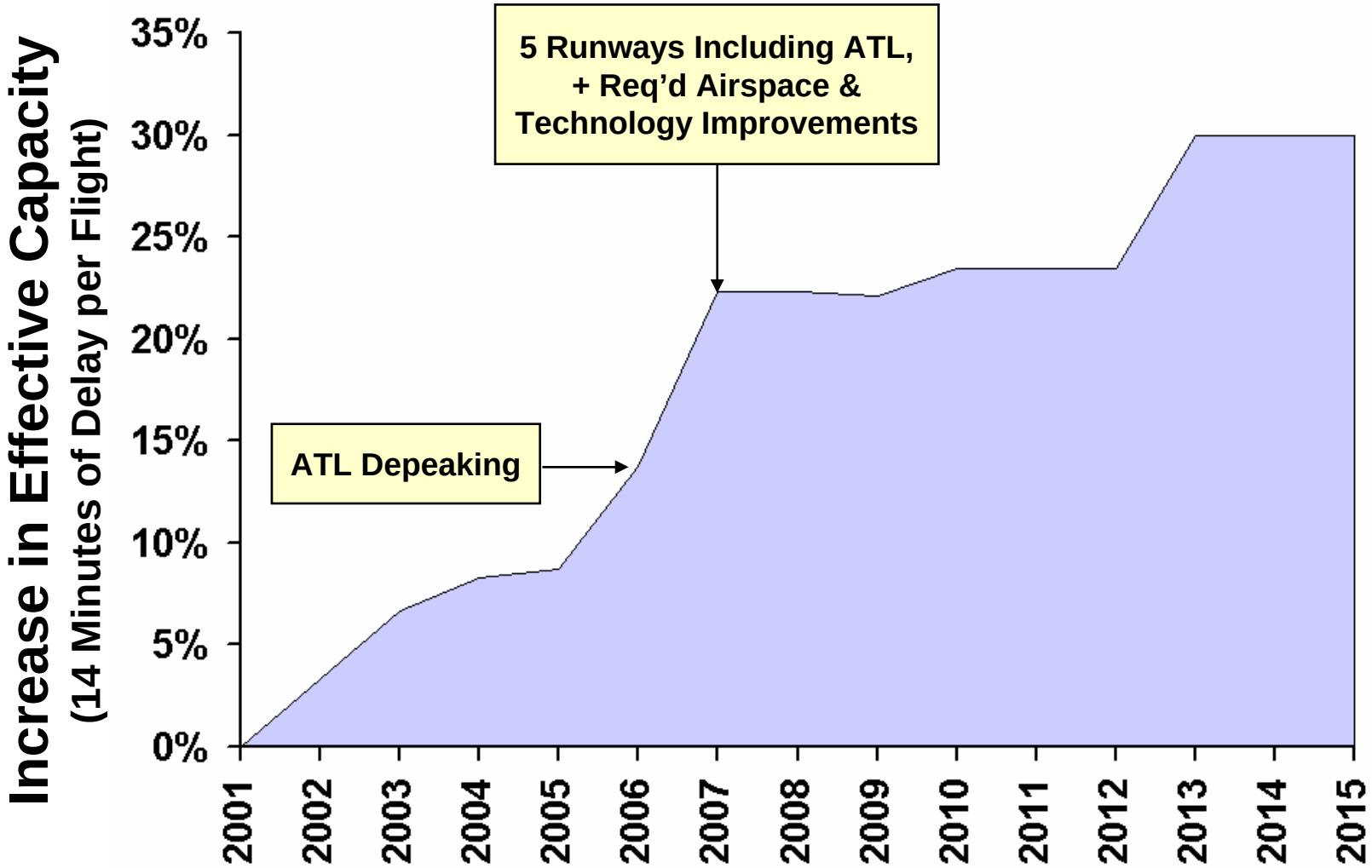

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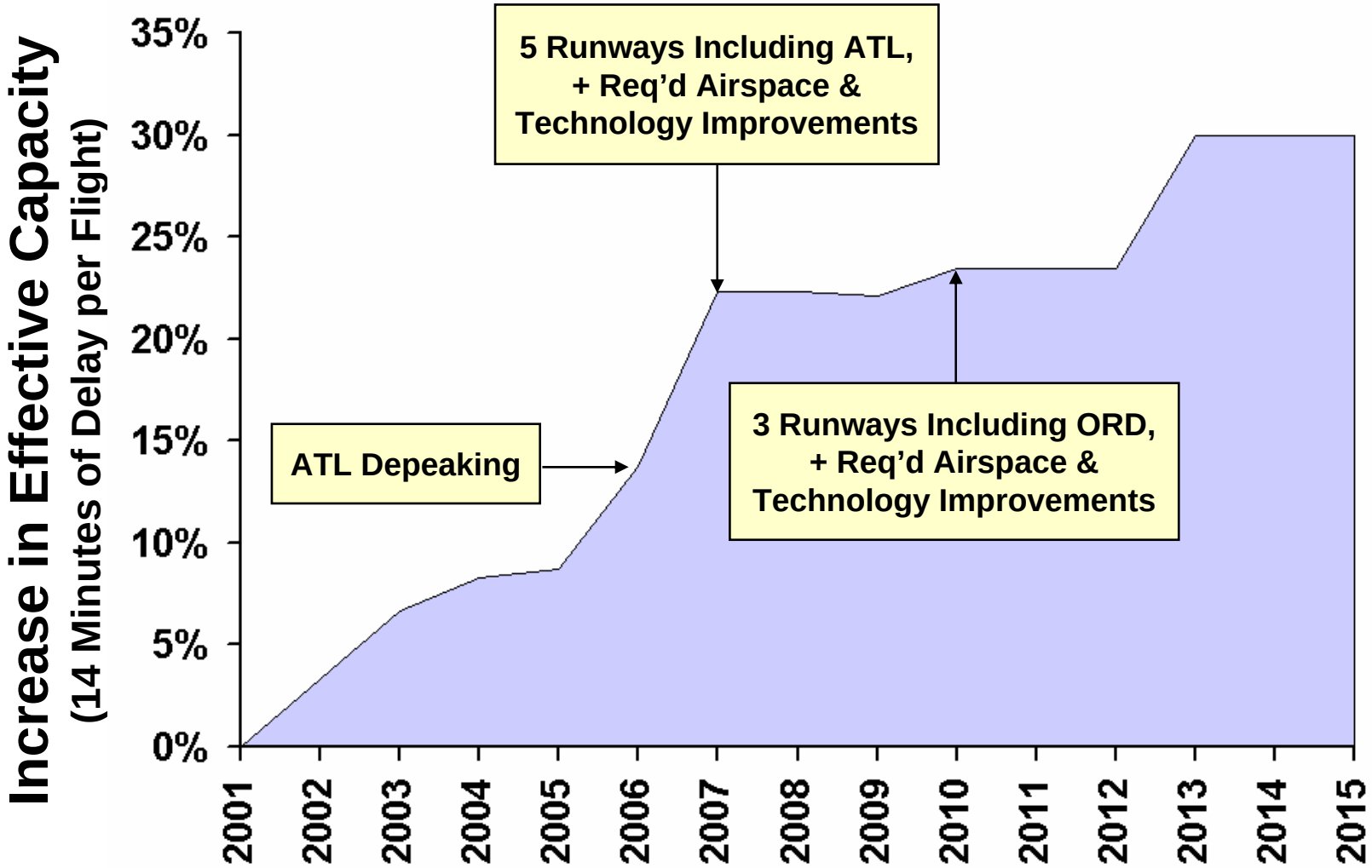

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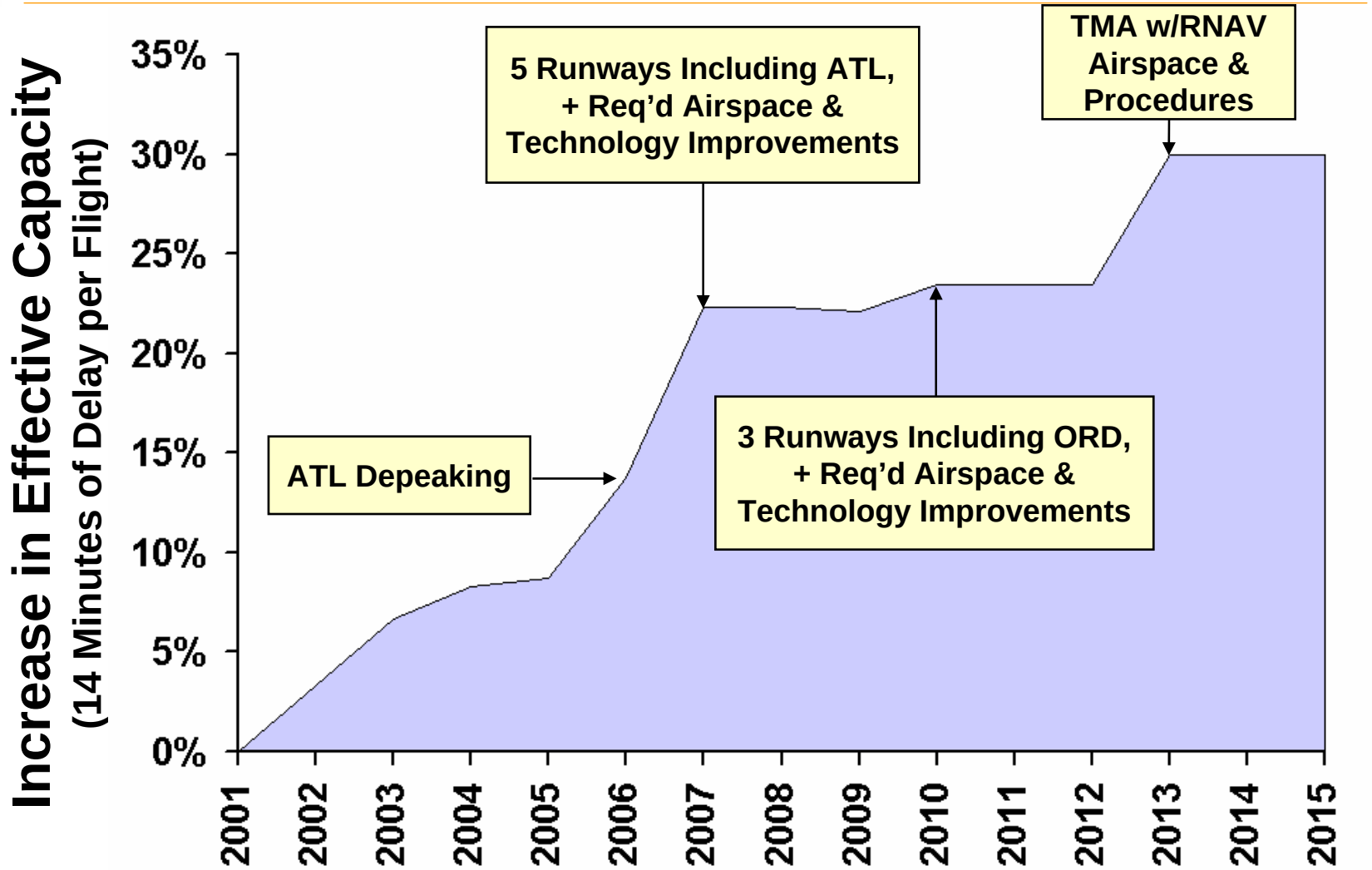

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Summary

- **OEP improvements are needed to keep the system operating with acceptable levels of delay**
  - **Planned OEP improvements are expected to keep delays about the same in 2015 as they were in 2000 (could range from 11 to 18 minutes)**
- **Five airports (EWR, FLL, LAS, PHL, and TPA) are expected to have high delays in 2015 even if demand does not grow as quickly as expected**
- **Effective capacity has increased by about 13% since 2000, and will grow to 30% by 2013**
- **Efforts must continue to be made to implement improvements that will improve system performance**
  - **Enable improved performance in Instrument Meteorological Conditions (IMC)**
  - **Relieve delays at heavily congested airports**

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Glossary

ASPM	Aviation System Performance Measurements
ATL	Hartsfield-Jackson Atlanta International Airport
BOS	Boston-Logan International Airport
BWI	Baltimore/Washington International Thurgood Marshall Airport
CLE	Cleveland Hopkins International Airport
CLT	Charlotte/Douglas International Airport
CVG	Cincinnati/Northern Kentucky International Airport
DCA	Ronald Reagan Washington National Airport
DEN	Denver International Airport
DFW	Dallas/Fort Worth International Airport
DTW	Detroit Metropolitan Wayne County Airport
EWR	Newark Liberty International Airport
FAA	Federal Aviation Administration
FLL	Fort Lauderdale-Hollywood International Airport
FY	Fiscal Year
HNL	Honolulu International Airport
IAD	Washington Dulles International Airport
IAH	Houston George Bush Intercontinental Airport
IMC	Instrument Meteorological Conditions
JFK	New York John F. Kennedy International Airport
LAS	Las Vegas McCarran International Airport
LAX	Los Angeles International Airport
LGA	New York LaGuardia Airport
MCO	Orlando International Airport
MDW	Chicago Midway International Airport
MEM	Memphis International Airport
MIA	Miami International Airport
MSP	Minneapolis-St. Paul International Airport
NAS	National Airspace System
OEP	Operational Evolution Plan
OPSNET	Operations Network
ORD	Chicago O'Hare International Airport
PDX	Portland International Airport
PHL	Philadelphia International Airport
PHX	Phoenix Sky Harbor International Airport
PIT	Greater Pittsburgh International Airport
RNAV	Area Navigation
SAN	San Diego International-Lindbergh Field Airport
SEA	Seattle-Tacoma International Airport
SFO	San Francisco International Airport
SLC	Salt Lake City International Airport
STL	Lambert-St. Louis International Airport
TAF	Terminal Area Forecast
TMA	Traffic Management Advisor
TPA	Tampa International Airport

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Glossary of Air Route Traffic Control Center Acronyms

ZAB	**Albuquerque**
ZAU	**Chicago**
ZBW	**Boston**
ZDC	**Washington DC**
ZDV	**Denver**
ZFW	**Fort Worth**
ZHU	**Houston**
ZID	**Indianapolis**
ZJX	**Jacksonville**
ZKC	**Kansas City**
ZLA	**Los Angeles**
ZLC	**Salt Lake City**
ZMA	**Miami**
ZME	**Memphis**
ZMP	**Minneapolis**
ZNY	**New York**
ZOA	**Oakland**
ZOB	**Cleveland**
ZSE	**Seattle**
ZTL	**Atlanta**

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